COMPLETE LISTING OF THE CLAIMS

The following lists all of the claims that are or were in the above-identified patent application. The status identifiers respectively provided in parentheses following the claim numbers indicate the current statuses of the claims.

1. (Currently Amended) A method of processing data in a data ~~processing system~~ file, the method comprising the steps of:

~~processing input data provided in the format of a data file in said data processing system in accordance with a first set of rules, which operate in said data processing system to define a stage at which such a processing operation ceases;~~

~~applying to the partly-processed data a second set of rules, which operate in said data processing system to modify the data, so that the modified data may be processed in accordance with a third set of rules and then outputted as an output data file from said data processing system, wherein the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes,~~

~~wherein the~~ operating a processing system to apply to the data file a ~~in accordance with the~~ first set of rules that include generating a representation of ~~the~~ an RDF graph for the data and ordering the representation, wherein the RDF graph contains a plurality of blank nodes ~~being substantially omitted from the ordering process~~, and applying ~~the processing in accordance with~~ the first set of rules further ~~including~~ includes assigning different respective labels ~~a different respective label to those blank nodes~~ to blank nodes that ~~are determined , by~~ can be distinguished based on a limited examination of the RDF graph around each ~~node~~ of the blank nodes, ~~to be~~ the labels making each of the labeled blank nodes distinguishable from the other blank nodes by their respective connected features of the RDF graph~~, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them~~;

~~wherein~~ operating the processing system to apply a ~~in accordance with the~~ second set of rules that operates to modify the representation of the RDF graph in respect of blank nodes that are not distinguished by the limited examination of the RDF graph ~~remain unlabelled~~; and

~~wherein~~ operating the processing system to apply a ~~in accordance with the~~ third set of rules that includes reordering the representation~~, the reordered representation comprising the output data~~ to produce a canonical representation based on the RDF graph.

2. (Original) A method according to claim 1 wherein the first and third sets of rules are the same.

3. (Previously amended) A method according to claim 1 wherein the modification in accordance with the second set of rules modifies the data.

4. (Previously amended) A method according to claim 3 wherein the first and third set of rules reorder the data, but do not otherwise modify the data.

Claim 5 (Cancelled)

6. (Currently Amended) A method according to claim 1 wherein the ~~input~~ data file is a text file describing the RDF graph.

7. (Canceled)

8. (Currently Amended) A method according to claim 3 wherein the modifications include ~~the~~ deletion of deterministic data.

9. (Currently Amended) A method according to claim 3 wherein the modifications include ~~the~~ addition of deterministic data.

10. (Currently Amended) A method according to claim 9 wherein the <u>deterministic data added is</u> ~~additions are~~ distinguishable from data which is, prior to performance of any modifications, deterministic.

11. (Original) A method according to claim 1 wherein the data describes an ontology.

12. (Canceled)

13. (Currently Amended) A method according to ~~claim 12~~ <u>claim 1</u>, further comprising the step, subsequent to ~~the processing of the data in accordance with~~ <u>applying</u> the

PATENT LAW OFFICE OF
DAVID MILLERS
1221 SUN RIDGE ROAD
PLACERVILLE, CA 95667
PH: (530) 621-4545
FX: (530) 621-4543

Serial No. 10/644,273

third set of rules, of writing or verifying a digital signature establishing authenticity of the data.

14. (Original) A method according to claim 1 wherein reapplying the method of claim 1 to data processed in accordance with such a method does not result in any further modification of the data.

15. (Currently Amended) A method of canonicalizing an RDF graph having a plurality of blank nodes, the method ~~being performed in a data processing system and~~ comprising:

generating <u>in a processing system</u> a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process;

assigning a different respective label to each of a number of the plurality of blank nodes;

modifying ~~the portion of~~ the blank nodes ~~remaining~~ <u>that remain</u> unlabelled; and

reordering the representation <u>using the labels and the modifications to produce in the processing system a canonical representation of the RDF graph</u>.

16. (Original) A method according to claim 15, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes.

17. (Currently Amended) A method according to claim 15, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be <u>deterministically</u> labeled and labeling said blank nodes accordingly.

18. (Original) A method according to claim 15 wherein the representation is an N-Triple document and the ordering is in a lexicographic ordering.

19. (Currently Amended) A computer program comprising program instructions embodied on a computer readable medium that, when loaded onto a computer, cause the computer to process data by: ~~processing data in accordance with a first set of rules, which~~

operate to define a stage at which such a processing operation ceases; applying to the partly processed data a second set of rules, which operate to modify the data, so that the modified data may be processed in accordance with a third set of rules, wherein the computer program is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes,

wherein the processing in accordance with the applying to the data in a data file a first set of rules that include generating a representation of the an RDF graph for the data file and ordering the representation, wherein the RDF graph contains a plurality of blank nodes being substantially omitted from the ordering process, and applying the processing in accordance with the first set of rules further including includes assigning different respective labels a different respective label to those blank nodes to blank nodes that are determined , by can be distinguished based on a limited examination of the RDF graph around each node of the blank nodes, to be the labels making each of the labeled blank nodes distinguishable from the other blank nodes by their respective connected features of the RDF graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them;

wherein the processing in accordance with the applying a second set of rules that operates to modify blank nodes that are not distinguishable by the limited examination of the RDF graph remaining unlabelled; and

wherein the processing in accordance with the applying a third set of rules that include reordering the representation, the reordered representation comprising the output data a canonical representation based on the RDF graph.

Claims 20 and 21 (Canceled)

22. (Previously Presented) A computer program comprising program instructions embodied on a computer readable medium that, when loaded onto a computer, cause the computer to canonicalize an RDF graph having a plurality of blank nodes by: generating a representation corresponding to the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process; assigning a different respective label to each of a number of the plurality of blank nodes; modifying the portion of the blank nodes remaining unlabelled; and reordering the representation.

PATENT LAW OFFICE OF
DAVID MILLERS
1221 SUN RIDGE ROAD
PLACERVILLE, CA 95667
PH: (530) 621-4545
FX: (530) 621-4543

-5-   Serial No. 10/644,273

Claims 23 and 24 (Cancelled)

25. (Previously Presented) A method for a data processing system to generate a signature for data that correspond to an RDF graph having a plurality of blank nodes, the method comprising the steps of:

canonicalizing the RDF graph by ordering triples from the RDF graph and omitting blank nodes from the process of so ordering; and generating the signature in the form of a triple, wherein the method that the data processing system uses to canonicalize the RDF graph employs a first set of rules, a second set of rules, and a third set of rules,

wherein the first set of rules includes generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process, the first set of rules further assigning a different respective label to each of those blank nodes that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the RDF graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them;

wherein the second set of rules includes modifying blank nodes that remain unlabelled; and

wherein the third set of rules includes reordering the representation.

26. (Previously Presented) A method according to claim 25 further comprising the step of including the signature triple with other triples of the RDF graph.

Claim 27 (Cancelled)

28. (Previously Presented) A method according to claim 1, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes.

29. (Previously Presented) A method according to claim 1, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be labeled and labeling said blank nodes accordingly.

Serial No. 10/644,273

30. (Previously Presented) A method according to claim 1 wherein the representation is an N-Triple document and the ordering is in a lexicographic ordering.

Claims 31-32 (Cancelled)

33. (Previously Presented) A method according to claim 15 wherein said number of the plurality of blank nodes to which a different respective label is assigned are those blank nodes that are determined, by a limited examination outward from each node, to be distinguishable from the other blank nodes by their respective connected features of the graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them.

34. (Currently Amended) A method for a processing system to canonicalize an RDF graph having a plurality of blank nodes, comprising:

generating in the processing system a representation of the RDF graph;

assigning [[a]] different respective label labels to each of those blank nodes of the RDF graph that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the RDF graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them;

modifying blank nodes remaining unlabelled; and

reordering the representation based on the labels and the modifications.

35. (New) A method according to claim 34, wherein the reordering depends on a lexicographic order of the labels.

Serial No. 10/644,273